in the group of isomorphisms of the Hamiltonian group. When $a = 3$ this reduces to the case which has just been considered.

We proceed to consider the group of isomorphisms of a group $G$ which is the direct product of a series of subgroups $G_1$, $G_2$, $G_3$, $\cdots$, $G_a$ such that each of these subgroups corresponds to itself in every simple isomorphism of $G$ to itself. We may suppose that each operator of these subgroups with the exception of unity is represented by a particular letter. Each operator of $G$ will then be represented by a certain combination of these letters. Since each of the given subgroups can be made simply isomorphic to itself in every possible manner without affecting the isomorphism of the other subgroups, the group of isomorphisms of $G$ may be represented as the product of the substitution groups corresponding to the simple isomorphisms of each of these subgroups to itself. Hence

*Theorem* III. *If a group is a direct product of a series of subgroups such that each of these subgroups corresponds to itself in every possible simple isomorphism of the group to itself then the group of isomorphisms of this group is the direct product of the groups of isomorphisms of the given subgroups.*

*Corollary.* *The group of isomorphisms of a Hamiltonian group is the direct product of the groups of isomorphisms of its subgroups of orders* $2^a$, $p_1{}^{a_1}$, $p_2{}^{a_2}$, $\cdots$.

CHICAGO, *August*, 1898.

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## GALOIS'S COLLECTED WORKS.

*Oeuvres mathématiques d'Évariste Galois;* publiées sous les auspices de la Société Mathématique de France, avec une introduction par M. ÉMILE PICARD. Paris, Gauthier-Villars et Fils, 1897. 8vo, x + 63 pp.

MATHEMATICIANS will welcome this new edition of Galois's works published under the auspices of the French Mathematical Society. They were originally collected and published in 1846 by Liouville in the *Journal de Mathématiques.* The present edition is a reprint of the first. It is accompanied by a portrait* of Galois and an introduction by Picard.

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* A note stating that this portrait was made *d'après nature* when Galois was fifteen or sixteen years of age should have been added. It was in the possession of the family when discovered by Dupuy.